White Paper Report

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Project Director: Kate Blanch (kblanch@thewalters.org)

Institution: Walters Art Museum

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38.188 (Folder)

QUAGLIA. Three children with a portrait, classical buildings in the background.

Children unidentified. Possibly the children of Caroline Bonaparte. Cf. Portrait of Caroline Bonaparte, Queen of Naples who posed for Francois Gerard with her children about her. Munseys Magazine, p. 184. "Famous Portrait Painters VIII - Gerard". This article was found in a book entitled "Clippings" belonging to Mrs. Gutman, March 1940.

pohait Museum Versailles

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Caroline Bonoparte and Munch only had 2 story.

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The lived in Rome after his Marahus from Napoleone.

Final Report & White Paper Access to Artworks in Encyclopedic Context

Grant Program: NEH Foundations

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About the Authors

Kate Blanch

Kate Blanch is the Systems Manager, Data and Digital Resources at the Walters Art Museum in Baltimore, Maryland. She oversees the planning, implementation and administration of the museum's databases, data-driven web-components and digital resources, including digital asset management, collections management, conservation documentation management, constituent management, and the collections data API. She works to integrate data structures, support end users, and maintain data standards and technical best practices for applications and hardware. Kate is the lead for the museum's document digitization initiatives, as well as data sharing and aggregation projects. The Walters places a strong emphasis on open data and public access of digital resources, which makes Kate's role especially rewarding. Kate has over 10 years of data management and system administration experience in the non-profit world, with a specialization in museum data and imaging services.

Chuck Patch

Chuck Patch is an independent consultant for cultural information management. He has worked in cultural institutions for 30 years, 17 of them as the Director of Information Systems at the Historic New Orleans Collection. He was an early proponent of Library-Archives-Museum (LAM) information integration, and led his New Orleans institution in the development of one of the first integrated LAM systems, which is now used in multi-disciplinary cultural institutions in Europe and North America. As a consultant, he has analyzed conservation documentation needs and curatorial data flow requirements for the National Gallery of Art and the Mellon Foundation, and designed digital asset management workflows for the Portland Art Museum and other institutions. He is a past president of the Museum Computer Network, and served as the first AAM representative on the Committee for Archives, Libraries and Museums (CALM), a joint venture of the ALA, AAM and the SAA. He has participated in a number of national working groups on museum information management issues, including the Core Team in the Mellon funded ConservationSpace project. He has been a collaborator, principal investigator and project manager for numerous grant-funded projects.

I. Introduction

With the support of a National Endowment for the Humanities Foundations grant awarded in May 2013, the Walters Art Museum (WAM) undertook a two-year planning and assessment project, *Access to Artworks in Encyclopedic Context*, to gain intellectual control over the contents of curatorial paper files of the Walters' art collection. The goals of this project were to identify the value to the humanities, prioritize materials for future digitization, and evaluate the technical requirements needed for digitization and public access. The contents of these files reveal the origins, experiences and journeys of the treasures in our collection, and span the last 100 years.

Establishing intellectual control over the resource and informing the preservation and organization of inaccessible, fragile paper records was of primary significance throughout the project. However, transforming this resource into a scalable, interactive online resource oriented around museum objects was also an essential and motivating need.

By developing a digital strategy around this diverse, analog collection of essential secondary and tertiary sources of information, *Access to Artworks in Encyclopedic Context* has succeeded in informing how researching works of art, their artists and historical people and places associated with artworks could be better facilitated by the museum for scholars, researchers, and students. This digital strategy is based around digitization and data modeling according to a standard ontology (CIDOC-CRM) that not only activates the people, places, and concepts within our digitized content, but will facilitate the publishing of linked open data.

The Walters is an anchor cultural institution in Baltimore, Maryland. In 1931, Henry Walters bequeathed to the City of Baltimore his collection of 22,000 works of art, his 1904 Beaux Arts gallery, the attached family home, and a modest endowment for the "benefit of the public." The museum's collection now comprises more than 35,000 works of art spanning 55 centuries from pre-dynastic Egypt to 20th-century Europe, as well as the Americas and Asia. Since opening, the Walters has been a national leader in scholarship, conservation, and education. As the only museum between Richmond and Philadelphia with an ancient collection, the Walters has a distinguished record of publication and special exhibitions presenting new scholarship in this field. Throughout the museum's history, educational institutions in our region have used the ancient collections as a vital resource for the teaching of history, language, and culture. The Walters is also renowned for medieval, Renaissance, Asian, Ancient Americas, 18th and 19 centuries, as well as Islamic collections.

II. Participating Individuals and Institutions

An inter-disciplinary team that represented expertise in both the humanities and information technology was assembled to ensure the successful completion of this project. Participating individuals represented the Information Technology and Curatorial departments of the Walters Art Museum, humanities and special collections experts from Johns Hopkins University and the Baltimore Museum of Art, independent technology consultants in the fields of museum information management and digital imaging, and technologists from the Yale Center for British Art and Digital Transitions.

III. Goals and Project Activities

Access to Artworks in Encyclopedic Context was comprised of three main goals, first, to establish intellectual control over a diverse body of content and secondly, to prioritize materials and explore methodologies for digitization. The third goal was to define technical requirements for digitization and public access, or a "digital strategy" in support of the material.

IIIA. Establishing Intellectual Control of Content

The content in scope for this project included paper-based materials and visual and textual documentation that support the Walters' collection of art objects. The materials have been produced sequentially, first by founder Henry Walters, then by early museum administrators processing Henry Walters' bequest to the City of Baltimore and, into the present, curators who research, document, and interpret the museum's collection. The materials that were identified for assessment were selected because not only do they relate to the Walters' collection of art objects, they also possess unique interrelationships and reinforce each other. When digitized together, this reference resource would provide a coherent or "encyclopedic" context in which museum objects, and the collection as a whole, can be better understood.

The photographic albums are the oldest component of this reference resource and have informed the production of other sets of reference materials produced thereafter. The albums are primarily a visual reference with sparse annotations that have archival and curatorial value. The early curators of the Walters Art Museum made extensive use of the albums. The Walters' system of accession numbers were inscribed directly to the photographs near the relevant objects depicted, and supporting information such as a dealer's name or date of acquisition, or information about objects that had been removed from the collection annotated on the album pages or photographs. The first, basic inventory of the collection was apparently achieved by carrying each album through the museum and the photographic contents of a given image visually compared with the objects as they were installed or stored in the various locations and cases of the gallery. As each object was found, its image was checked off in red in the album. Inscribed on each photograph used in the inventory is an indication of the gallery location or storage space, and case number when appropriate, of where the object was located.

With a basic visual inventory completed, the albums enabled early museum administrators to complete a basic *catalog* of the collection, which they recorded by typewriter onto index cards, thus creating the curatorial collection card catalog or "accession cards" as they are informally known. They are an organizational layer that improves upon, but could not have been created without, the photographic albums. After the creation of the card catalog, the use of the albums to support collections management dwindled, and the visual information they supplied, such as the curatorial categorization implied by colocation with other objects in a photograph or within a gallery, was lost. Historic curatorial categorization or object arrangement for display supports humanities research related to the history of collecting, and digital access to this type of source material is a compelling need.

The curatorial paper files emerged after core organizational work had been completed and documented in the albums and the collection card catalog. Their purpose was to house the research that was now facilitated by having an indexed, searchable, and findable collection. Bibliographic citations, in both analog and electronic form (existing within the curatorial files, annotated on collection cards in the catalog or within The Museum System (TMS) database) represent the tangible extension of curatorial

research and scholarship housed in the curatorial files: published materials that have become part of the library system. These bibliographic citations extend beyond the curatorial files as they are universally accessible, whereas the curatorial files remain closed. More significantly, the citations provide explicit links between the collection objects and published scholarly work.

A key component to the museum's intellectual control of this resource is the understanding that this reference information has converged and diverged over time. When digitized as a whole, the opportunity to road map information related to collection objects emerges, allowing users to examine previous scholarship and interpretation, reinterpret the collection, and uncover or contribute new knowledge to the field.

Photographic Albums

A cornerstone of the reference is the set of photographic albums dating from ca. 1908-1927. More than simple documentation, they functioned as a fascinating pre-cursor to a modern, image-based collections management system. Twenty-two separate albums of installation shots and object images were produced in multiple sets at the behest of Henry Walters who hired photographer John Schaefer to complete the photography. The albums include the great variety of the collections Henry Walters left to the City of Baltimore, with the exception of the collection of manuscripts and rare books which are not documented in the albums. Albums 1 and 2 appear to have been initially designed to provide a visual introduction to the Walters Art Gallery. The rectos of the individual pages contain installation shots, beginning on the first page with a view of the exterior of the museum on Charles Street. The following pages continue with shots of a progressive movement through the museum and its various exhibition spaces. This initial layout was changed at some point, most likely to save space, and photos of individual objects or groups of objects were in-filled on the page versos, with no relation to the installation views on the other side. The following albums appear to have been arranged largely by categories of objects, such as bronzes, Asian works, sculpture, etc., but frequently interrupted by different types of objects.

Each album was reproduced in at least three sets, and in some cases a fourth set was made. The entire lot of 80 volumes has been reorganized, archivally housed, and their housing labeled numerically to a standardized convention (set number followed by the album number, i.e., 1.1, 2.1, 3.1). To directly support the digitization of the albums, each album page of the first two sets of twenty-two albums have been paginated. Pagination was deemed important as a preparatory step for digitization so that digital files would possess a definite visual identifier of a page's sequence in its native album set. Additionally, as part of the *Access to Artworks* project, descriptive and administrative information capturing the contents of each page has been cataloged for all 22 albums within sets 1 and 2. The catalogued fields outlined below have been structured to allow for the catalogued information to become an interoperable data set linked to museum objects by accession numbers.

Album Page Contents Catalogued
Album Set Number
Album Book Number
Album Page Number
Negative Number
Additional Negative Numbers
Accession Number

Additional Accession Numbers
Marshall Inventory Number
Additional Marshall Numbers
Image Category (I = Installation; G = group of objects; S = single object)
Additional Image Categories
Page Notes
Photo Notes

See Appendix 1 for Sample Catalogued Data See Appendix 2 for Sample Album Pages

Curatorial Collection Catalog or Accession Cards

This catalog of approximately 25,000 4" x 6" index cards is very much like a library card catalog in its design, with one card representing each object in the collection, and each card including early curatorial cataloging. The cards are arranged numerically by accession number. A core set of information is included on each card, and each card's verso includes an image of the object reprinted from the glass negatives yielded from the photographic albums. The catalogued fields comprise a core set of art object "tombstone" information.

Catalog Card Data Points
Accession Number
Classification
Artist/Maker
Nationality or Culture of Artist/Maker
Object Date
Medium
Inscriptions
Description of Object
Storage Location and Gallery or "Display" Location (no date accompanies these locations)
Exhibitions
Bibliographic Citations
Provenance (annotated as previous collections, sale and sale catalog details)
Dimensions
Technical Record Log (lists the year(s) work was photographed and conserved)
Miscellaneous Notes (i.e. related works in other collections, condition notes, etc.)

See Appendix 3 for Sample Catalog Card See Appendix 4 for CIDOC Mapping of Object Tombstone information

Significance of Collection Catalog

The information on the cards is a compilation of information from various sources, including collection ledgers, the photographic albums, and curatorial research. As such, the catalog remains a principle entry point for object information when other electronic avenues are exhausted. When the data in electronic system (primarily TMS) is skeletal or uncertain, the cards are consulted as a verification source. The object images on the cards, while not of superior quality in this format, continue to assist with object identification and retrieval when no other digital image exists. The card catalogue was "closed", i.e. cards were not added for new objects, starting around the year 2000.

Bibliographic Citations

The earliest notations of published citations about works of art in the museum's collection were transcribed on to collection catalog cards. These citations directly connect the museum's objects with public scholarship, research, and interpretation of objects in its collection, which directly strengthens the field of art historical and humanities research. In a modern context, these citations provide an early and fundamental level of public access to our collection. Assessment of the collection catalog cards revealed that roughly 80% of the bibliographic citations present on the collection cards have been successfully captured in the TMS database. Additional electronic records of citations have been continually added to the database since the closing of the card catalog, making TMS the source of record for bibliographic citations that directly reference works of art in the collection.

The Research Library at the Walters, a rich art-historical library collection that supports curatorial research, uses the Horizon SirsiDynix library system for electronic management of its catalog. Because many volumes that contain collection-related bibliographic citations are held in the library's collection, this data source was assessed as part of this project. The TMS and Horizon databases contain duplicative volume-level data (titles, authors, publishers, etc. of publications). However, the Horizon database has not been systematically used to link the volumes in its collection to the accession numbers of museum objects that might appear within them. This discovery lessened the potential value in integrating the two data sources. Citations exist in TMS for 1,920 volumes that are held in the Research Library.

The most direct strategy for utilizing bibliographic citations for public access and linked data would be to publish citations and the ISBN, ISSN or OCLC identifier from TMS as part of museum object metadata. Analysis of the citations catalogued in TMS revealed that over 3,200 art objects with an online or "public access" status have at least one citation with a corresponding unique identifier (ISBN, ISSN or OCLC). Counting citations independently of art objects, approximately 900 of the 6,000 bibliographic references in TMS have a corresponding unique identifier (ISBN, ISSN or OCLC). The presence of a unique identifier that resolves to a world-wide, online library catalog is the most direct, efficient way to connect our works of art with public research about them. While only 15% of the citations would be ready for public access and linking, planning to use unique identifiers of digital library catalogs to resolve our citations emerged as an effective way to activate existing catalogued data and support the development of a rich, "linkable" resource.

See Appendix 5 and 5.1 for CIDOC Mapping of Bibliographic Citation Information

Curatorial Files

Approximately 17,000 curatorial files corresponding to museum art objects and containing research, correspondence, and other object documentation that span across the last 100 years were the largest body of material assessed. The collection of these files contains approximately 34,000 documents. Housed in multiple cabinets in a heavily trafficked hallway in the museum's office area, the curatorial files hold a wide range of documentation (further identified in the document classification table below). These files were created over many decades by a number of different curators, using partially-standardized organizational structures with unique sub-divisions related to the geographies, cultures and object types prevalent within each curatorial department. While organizationally idiosynchratic, they are a vital part of the institutional history and a working source of information on the collections. Unlike the bibliographic

citations which connect art objects with *external* scholarship, the curatorial files provide an important (and often concealed) view of internal research conducted by curators and scholars in the process of building the Walters collection. The understanding of the shifting nature of art historical research, trends in scholarship, and the reinterpretation of art historical research could be best facilitated by providing equal access to both meaningful internal scholarship and external, published research.

Collaborative Meetings

Several meetings were held during the project at which staff and, later, an advisory council, weighed in on the value and uses of the information sources under review. A total of five workshop-type meetings included an initial presentation and discussion with the entire curatorial staff in early 2013, which brought together the expertise of the Walters' curators, its registrar, and a group of outside experts including librarians, archivists, and art historians from other institutions. The meetings held in 2013 helped establish the parameters for the inventory that took place during the winter of 2013 and spring of 2014.

At meetings held in 2014, the committee reviewed the analysis of the inventory prepared by Melissa Wertheimer, the NEH grant-funded Archives Assistant. The analysis elicited considerable interest and speculation about the potential value of the files, both as a source of general, historical, and historiographic research, and as a powerful internal resource when aggregated with existing electronic tools. These meetings elicited a number of themes that we will describe in the following sections.

Practical Issues in Managing, Organizing, and Arranging Curatorial Materials

It had been noted at an early project team meeting with curatorial staff that the variant organization of the files prompted different levels of use by the curators. The utility of the curatorial files, essentially the centerpiece of the project, varies directly in relation to how each of the sections has been organized. The basic structure of the filing system was based on the departmental structure of the museum when the files were first created in the 1930's. These departments were, in turn, based on geographic classifications that reflected the categorization of objects collected by the museum. Because these original classifications are no longer considered intellectually valid, and departments at the museum no longer make use of them, locating material within the files is often a matter of "translating" current categories into the sometimes contradictory classifications of the filing system. Adding further confusion to this process, the files for each department were typically organized by the chief curator in those departments. Where the curator had an extended tenure, the organization of the files tends to be more coherent, and thus more useful to the current curators. It became apparent through collaborative conversation that a disparity in utility among curatorial staff existed and would need to be addressed. Despite the antiquated organization of the files, there was near universal agreement that the organizational categories assigned to the files should not be discarded. Although not relevant to modern art historical research or the current organization of the institution, the file structure provides a vital index to the thinking of earlier curators and the rationale used to build the collection. This historiographic theme was echoed in many of the discussions concerning different aspects of the files, albeit almost always in the context of a "greater whole" that included the contents of the curatorial files as well as other document repositories within the institution (i.e. conservation and registrarial files, the collections management system (TMS), the institutional archives, and the photo albums.)

The best solution to improve upon the organizational arrangement was to "update" but not dismantle the existing curatorial file organizational structure. Leveraging the fact that present-day curatorial departments do correspond to the original geographic organization of the files, the project team worked with the curators to map filing categories to the curatorial department structure presently in use in TMS. The notion of arranging the curatorial files by ascending accession number order as planned in the original project proposal was discarded. This strategy allowed for the part of the arrangement that had archival value, the geographic or cultural sub-categories, to be preserved, while giving the files an organizational structure that allowed for electronic inventories against TMS to be carried out.

See Appendix 6 Curatorial File Arrangement Mapping

Compiling Disparate Records

Of obvious importance to the inventory process and re-housing the curatorial files was to isolate documents in disparate locations, such as curatorial offices, and bring them together within a centrally located file. A glaringly straightforward but serious limitation that hindered this process was a lack of physical space to add more filing cabinets and accommodate more documentation. The physical space occupied by the filing cabinets that house this resource takes up the entire length of the hallway and there is simply no room for more storage without relocating the entire collection. As a second approach, work to compile documents into complete paper files was approached as opportunistic rather than methodical. Instead of "harvesting" documents from offices and other storage locations, we made curatorial staff aware of our intent to compile and asked for contributions. We believe this yielded documentation of higher importance being contributed, which may offset the fact that some documents remain outside of the centrally located curatorial file.

An unexpected result of trying to compile documentation from disparate locations was that it revealed the unstructured nature of contribution to the curatorial files over time, a situation noted during project meetings with the curators. An established, institutional document management policy would have aided this aspect immensely. The creation of guidelines for structuring contributions to the curatorial files has become a high priority, but as revealed in meetings with curatorial staff, development of such guidelines will need to take into account variant professional practices. Different curatorial specialties take different approaches to the organization of research and the selection of relevant documentation. During the meetings, it was asserted that a "one size fits all," approach was inappropriate.

A Non-Archival Finding Aid

Initially thought had been given to the creation of archival finding aids for the curatorial files, particularly since another of the resources, the photographic albums, is already held by the archives. There was also hope that the finding aids could be created to bridge the gap between the archives holdings and the curatorial files. The inventory of the curatorial files made clear, however, that they were not a true archival collection. The hierarchical description afforded by traditional archival finding aids would serve little function for what is closer in resemblance to a library vertical file than to the aggregations found in a proper archive. The inventory results and analysis that were completed resulted in the development of a finding aid that is more like an indexing system that accounts for access points identified during the project and would prove more practical. The access points by which users would seek and retrieve curatorial files reflect a fine level of granularity, at least to the individual item or folder level. If digitized,

an even finer level of granularity reflecting the document or piece level would have to be applied to processing. While this approach addresses the access problems of the curatorial files and the documents they contain, it is not a recommended archival methodology for processing materials. In short, the curatorial files are not amenable to classic archival processing methods.

See Appendix 7 Curatorial File Finding Aid

Document Classifications and Constituents within Curatorial Files

The evaluation criteria used to classify types of content was the result of discovery meetings held in 2014. The committee reviewed the inventory and analysis conducted on a random sample of the files but covering the full scope of information sources identified for the project. The survey provided the first detailed picture of the contents of the files ever drawn. Lists of categories, constituents referenced in the files, languages used, and the condition of the materials were documented. In addition, a categorization of document types was compiled, which proved to be extremely helpful in identifying digitization requirements.

Constituents (i.e. the authors and subjects of documentation), constituent roles (i.e. author, mentioned, recipient, sender), and document classifications were determined to be the most research-useful data points possessed by the documents. These data points would indicate interrelationships between documents and the museum's collection and between documents and individual art objects. These data points can also be turned external, allowing interrelationships between constituents, roles, and document types to be linked to online resources that the subjects might share.

Table 1: Primary and Secondary Document Classifications

Primary Document Classifications	Definition
Correspondence	original and/or photocopied letters, postcards, telegrams, printed e-mails, memos, printed faxes, and other written or typed communication
Dealer	original and/or photocopied documents related to an object's dealer history are present, including purchase receipts, insurance information, appraisals, and temporary loan forms
Previous Owner	original and/or photocopied documents related to a donated object's history are present, including bequest agreements, deeds of gift, appraisals, and temporary loan forms
Provenance	original and/or photocopied documents related to an object's origin are present, including written statements, ownership history, information in a printed object report, etc.
Published Articles	original and/or photocopied items are present: complete journals, journal articles, journal article excerpts, article off-prints, article typescripts, article drafts, book chapters, book excerpts, internet articles, exhibition catalogues, and auction house catalogues
Rights/Reproduction Requests	original and/or photocopied requests for a photograph of an object are present, including official Reproduction

	Request Forms and letters addressed to individuals
Scholarly Research	original and/or photocopied observations made by an external scholar about an object
Walters Collection Curator Research	original and/or photocopied research by curators, interns, fellows, and staff are present, including notes, object catalogue cards, lists of bibliographic citations, and printouts of museum database information
Secondary Document	Definition
Classifications	
Clipping -Newspaper, Article, etc.	original and/or photocopied newspaper and magazine articles are present
Conservation	original and/or photocopied notes, official reports, and other documents related to an object's conservation treatment, history, and evaluation are present
Exhibition Label/Copy	original and/or photocopied exhibition labels or drafts of exhibition label text are present
Images/Photos	original and/or photocopied items with an image of an object are present, including photographs, slides, negatives, sketches

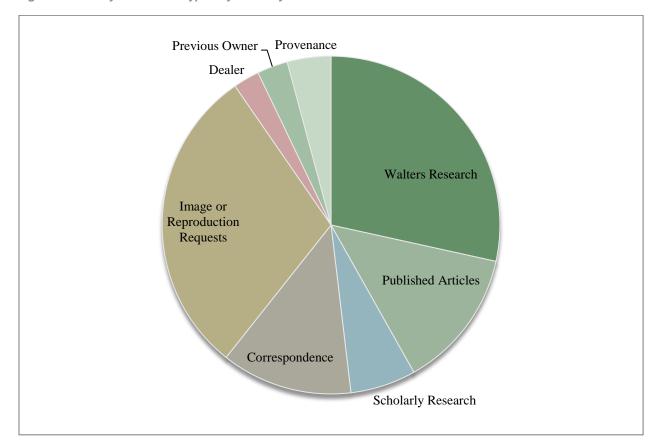


Figure 1: Primary Document Types by Quantity

Note: Total percentages across document types will yield more than 100% as folders can contain more than one type of content.

Walters and Scholarly Research

The most prevalent content present, at 68%, was related to artwork research undertaken by the Walters staff. This would be expected given the nature of the files. An additional 15% of the curatorial files contained scholarly research from the field. This content complements the Walters' staff research and is a cornerstone that anchors the collection of files. Students, scholars, researchers and subject matter enthusiasts undertaking any level of art historical research or exploration would benefit from this material.

Published Articles and Image or Reproduction Requests

Thirty-two percent (32%) of the curatorial files contained published articles about the work of art, and 71% contained requests for either a reproducible image or permission for reproduction of the art object in a scholarly book, journal, or article. The value of this type of content is that it strengthens the bibliographic citations catalogued for works of art in the collection. The museum regards the publication of the works of art in its collections, especially those authored by outside scholars, as a significant channel of collections stewardship and access.

Dealer, Previous Owner and Provenance Information

A combined total of only 23% of the files contained information that supported provenance research. 6% of the sampled files contained dealer information, 7% related to ex-collections or previous owners, and 10% related to other provenance episodes. The Walters' curators, registrars, and archivist will partner to develop a strategy to strengthen this area of content. Archival research reveals that Henry Walters may have may have wished to obscure information about his purchases, to the extent of destroying invoices and documentation that accompanied the works he obtained. Exploring ways to recoup lost information from other archival sources would be an excellent complement to this project.

Correspondence

Thirty percent (30%) of the curatorial files' contents contain important, historical, written communications about the art objects, curators, institutions, and scholars engaged with the collection. More than 2,300 individuals and institutions have been identified within the sampled content in roles that span a variety of categories (e.g. Author, Mentioned, Originating Institution, Receiving Institution, Recipient, and Sender). The advisory panel explored the list of names and agreed on the incredible richness of this data set, but found the number of constituents to be too great for in-depth consideration in the time allotted for the workshops. Panelists noted that the correspondence minimally provides a compelling directory of important people in the arts throughout the last 100 years, and that at the least a strategy is needed to better catalog and assign attributes or meaningful categories (donors, scholars, curators, dealers, institutions, et cetera) to this data set. Beyond this simple categorization, it was recognized that there is great potential to define relationships, geographic foci, and chronologies related to various historical events, largely due to additional variables identified throughout the files, but especially in the correspondence. Fifteen languages besides English are represented, including Armenian, Croatian, Czech, Dutch, French, German, Greek, Hebrew, Hungarian, Italian, Polish, Russian, Spanish, Thai, and Turkish.

This rich set of constituents, and the contextual information supplied in the content of their correspondence, galvanized a shift in planning toward incorporating the principles of Linked Open Data to this data set, discussed below under Metadata Standards for Cataloguing and Linking Content.

Cross-Cutting Criteria for Evaluating Documents for Use in Humanities Research

Although the survey identified the range of document types (described in Table 1), it became clear during the meetings that a number of criteria cross-cut these categories and directly affected their utility. These included:

Table 2: Evaluation Criteria for Document Utility

Document Utility Criteria	Definition
Original vs. Copy	Regardless of the Primary Document classification, an original
	document (e.g. a typescript; a handwritten note; an original photograph)
	was regarded to have intrinsically greater value, since it could not be
	immediately ascertained if duplicates existed elsewhere in the

	institution. All other aspects of the document being equal in terms of completeness, relevance to the object or project, original documents would be of greatest value. If the original documents were fragmentary, its value could only be ascertained if it could be reunited with its original context. If the original document was of a trivial nature (e.g. a commercial transaction not directly involving the object) its value might be negligible.
Fragmentary vs. Complete	Many documents found in the file are fragmented or incomplete to the extent that it is difficult to know what they are. At best such document fragments provide clues to the existence of unknown information. At worst, they are useless.
Correspondence Variety	Traditional written correspondence tends to be valued more highly than printed email threads, as it contains nuances of formatting and presentation lacking in email. Emails, in contrast are more casual, informatively diffuse, and awkward to work with. At the same time, email printouts are more likely to include both halves of the correspondence.
Draft or Disproven Research vs. Final or Proven Research	These documents, generally in the form of notes, or unpublished manuscripts, tend to have value in relation to how widely they diverge from either final publication, or proven research. In the sense that these types of documents provide insight to contemporary knowledge and practices, they can be valuable from a historiographic standpoint, and lead to better understanding of how the collection developed.
File Density	An individual document may have a number of characteristics that would, taken on an individual basis, detract from its usefulness. But found in a rich context, i.e. a folder for an object that contains a large number of diverse materials, the document benefits from a "whole is greater than the sum of its parts" effect. Because the older object folders tend to be richer in both quantity and diversity of documentation, they generally yield more valuable results from a research perspective.

The Evolution of Utility

The changing use of the files over time was one of the most significant issues to emerge. The gradual change over the past two decades from paper-based to digital documentation has had a number of profound effects on the way the files are both used and updated, and consequently on their value. Originally set up with the idea that they would be browsed by the curators for information on the art of a particular region, for the past 20 years the curators have primarily gone to the files seeking specific documents, and have been often frustrated by inconsistent, and sometimes redundant information. In addition, as it became more common to gather information and communicate in digital form, the curatorial files came to be regarded as a kind of backup repository, where printouts of items considered important could prevent loss from a digital environment, or provide a comfortable "low-tech" method of retrieval. The result has been that as comfort levels with digital platforms have increased, the volume of material added to the files has both decreased, and become far less consistent. A coincidental, and less remarked effect has been the loss of a central repository for curatorial knowledge, as a mixture of personal research materials, emails, images, etc. accumulates outside of the curatorial files on personal and departmental network shares and the collections management system.

The Information Gateway and the Serendipitous Find

Under the best of circumstances, the curatorial object files are useful in providing a rich source of context for the perceived significance of an object at the time of acquisition. However, in almost every case, the details presented by the files are treated by the curators as unverified, but tantalizing leads to other sources of information. In many instances it is impossible to ascertain what type of document one is looking at, as often only part of the document was copied into the files, leaving the date of its creation or the identity of its author unknown. In and of themselves, these "floating" documents (as they were described by the curators) had questionable value, but suggested the existence of other sources of information. Dr. Jo Briggs, Assistant Curator of 18th- and 19th-Century Art, noted that she always goes to the curatorial files first when researching an object, but pointed out that undated or unsigned (anonymous) information had to be taken "with a pinch of salt."

Perhaps more importantly, from a research point of view it appears each piece of documentation (even when sparsely identified) is valuable as a potential lead to other, more reliable sources of information. It is the compilation itself that provides the broadest overview of the information available on objects in the collection. The compilation provides opportunities for research to persist, with the contents of the files providing directional orientation about where research could go next. Therefore, research value of all the documents together in each curatorial file folder is demonstrably greater than the pieces that it contains. In essence, the functionality of the file has evolved from a centralized source of information into a primitive gateway to more reliable sources. Humanities experts and curators on the project advisory panel emphasized that the research value of all the documents, together in each curatorial file, could be seen as "preserving the serendipitous find", or the chance happening upon of information that leads to a great discovery or new trend in scholarship.

In the sense of the curatorial file as a "gateway," the current organizational structure, while important as a historical artifact that manifests the rationale of earlier curatorial practice, often impedes current research. The committee members noted that when researching the history of the Walters' museum and/or collection as a whole these files would have little value because they were not organized to facilitate what one member described as "thematic" research. Research using thematic access points such as document classifications, constituent roles, or, more granularly, the names of curators, dealers, donors, or even dates of acquisition is hampered by the current arrangement of the files which utilize only two somewhat restricting themes, curatorial department and geographical region.

A theme that became apparent only after a full understanding of the photographic albums, catalog cards and curatorial files was obtained is the effect of technological constraints on the information (i.e. data) carried forward from one system to the next. Information has markedly eroded over time. When the first card file system was created, the visual information regarding the relationships between objects in the galleries was obscured, if not entirely lost, and some of the hand written information in the albums was not preserved. When the card files were converted to the museum's first computerized collections management system, it was either not possible or deemed not a priority to incorporate the curator's annotations or the photographs on each card into the new system. When the museum migrated to TMS, it imported records from the previous collections management database and did not retrieve data from the cards or albums that this new system could now functionally incorporate. Plans to channel the textual and visual digital files accumulating as Microsoft Word documents, JPGs and TIFFs, PDFs, and email on

individual network accounts have not been enacted. In short, there is a residue of "discarded" information left behind in the paper-based systems that gives them a unique value.

The Preservation of Historical Authenticity in Support of Humanities Research

The unique historical importance of the files was made evident through this NEH-funded project. From the categorical divisions of the files themselves, to the correspondence, documentation and directory of constituents they contain, the advisory panel felt that the materials provided an intimate and highly instructive look at the curatorial values and collecting processes of an earlier generation. Perhaps the most important documentary aspect of both the files and the card catalog are the annotations made by various curators over the years which were not captured in the electronic systems that used this material as the source of its data. One participant described the curatorial files and collection card catalog as a "repository of comments." Indeed, one of the challenges perceived by the project team was how earlier commentary and annotations could be authentically preserved within a contemporary organizational structure of digitized surrogates. There was also concern that the curatorial files, in particular, embodied the working knowledge of individual curators, acting to some extent, as a body of biographical data. As one person remarked, "whole careers are documented in the files." Providing access to direct, digital copies of the documents allows for discovery of commentary and annotations but doesn't address searching, cross-referencing, and the chronological organization of commentary and annotations.

Dr. Jo Briggs, as well as other curators, noted that a significant amount of documentation in the files consisted of "draft," and/or disproven research. While the need to sort out this material added another layer of effort to the effective use of the files, the draft/disproven research was not without interest. Among the committee members, it was generally felt that draft or disproven research had historiographical value by providing insight into the thinking of past curators, specifically, and the sociology of the museum profession, generally. Beyond the concern for annotations that have been lost in the transfer of information to automated systems, among the most cited instances of the importance of the files was the implicit information communicated by traditional, written correspondence. Unlike email, written correspondence often communicates additional information implicitly through characteristics such as a company's or individual's letterhead, the quality of the stationary, whether the letter is handwritten or typed, etc. All of these qualities may impart greater information about the transaction conducted via the text. If transcribed, this information would be lost. If digitized, much, but not necessarily all of the implicit information would be preserved, including the annotations.

Each of these concerns expands beyond the "gateway" functionality of the files as they are currently used, and addresses the information "residue" left behind by the advance to more technologically sophisticated systems. Together, the original classification system, annotations, and the visual and tactile data provide the unique qualities of the files that are not duplicated elsewhere in the information ecology of the museum.

Albums

The photographic albums, being a primarily visual resource with extensive, page-level cataloguing now complete and minimal post-processing required have the fewest complicating factors associated with their digitization. In addition, the albums are large, making them difficult to handle, and are in increasingly fragile condition. They should therefore be digitized as soon as possible.

Accession Cards

Originally used to create the records in the museum's first collections database, a custom R:BASE database, only the information that was either deemed essential at the time, could be deciphered from hand annotations and abbreviations, or would fit into character-constrained DOS fields was transcribed into the new system. As the data in R:BASE was used to populate the museum's second database iteration, Argus, and as Argus was the source used to populate TMS, the cards remain the only place some information can be found. Yet, the data points missing from the electronic object record are random and sporadic. A randomized survey indicates that 80% of the card data is, in fact, present in TMS. This is due to focused "re-cataloguing" or reconciliation with the cards for certain parts of the collection completed in the last 5 years. While the initial inclination of both the curatorial committee and the technical advisory panel was to identify from each card the material that was not transcribed into the database, it was clear that such a vetting process would require the labor intensive task of determining what is missing from the database records. A second approach, ultimately advocated by the technical advisory group, was to simply digitize and provide access to images of the front and back of each card, linking them to the TMS records for internal access and having them join the electronic repository of other reference resources. While less elegant than identifying data from the cards that should be transcribed into the appropriate database fields, the less discriminating digitization would shorten the process and still significantly reduce the effort required to retrieve information from the cards. Given the "closed" status of the curatorial card catalog, the somewhat fragile nature of the cardstock on which they are printed, the uncomplicated nature of their digital capture, and the minimal cataloguing and postprocessing required, they should be digitized as soon as possible.

Curatorial Files

Two pragmatic perspectives on how to assign priority for digitization and access emerged during collaborative work with the advisory panel. Of highest interest is the documentation that falls into Dealer, Previous Owner, and Provenance categories. These groups combined make up about 20% of the documents within the curatorial files. Curators felt strongly that this content should be sought out, isolated, and digitized as the highest priority. The timeline for the digitization of the remaining material was negotiable, if necessary at all. The seeking out and isolation of the Dealer, Previous Owner and Provenance documentation would however add an extensive preparatory step to any digitization plan.

A more holistic approach offered by technical advisory consultants, and the approach ultimately adopted into this digital strategy is to digitize the entire collection of curatorial files (i.e. all documents of every classification, within each folder). Then, define a basic level of organization that mirrors the existing curatorial paper files (i.e. group documents by museum object and make document classifications and

curatorial departments identifiable) and provide access to the digitized lot. Relevant, or high-priority material will naturally be drawn out and rise to the top, at which point it can be tagged as such.

This approach would have the added benefit of avoiding the gradual abandonment of data that characterized previous format migrations (i.e. from the albums, to the catalog cards, to the museum's first electronic databases). Natural filtering of importance or priority of content in large-scale document repositories, i.e. the "favorites" approach, preserves the opportunity for serendipitous discovery and prevents incorrect devaluation or omission of materials based on research constructs of the present time.

IIIC. Technical Requirements for Digitization

The technical requirements explored as part of this project define an approach for creating digital surrogates that facilitate access and reproduction of mostly printed, analog materials. Our aim was to specify requirements and an overall workflow that is efficient, expandable, sustainable, and could be adapted to subsequent high volume digitization projects. Over the course of two onsite days with technical consultant Howard Goldstein of Digital Imaging Strategies, and in collaboration with eight staff members, we defined requirements and workflow.

The main objectives we completed were to identify hardware and software for digitization; outline a workflow for digital capture, including organization of and handling of the materials; and define strategies for optimizing descriptive and administrative metadata about each digital file.

Overview of Materials for Digitization and Existing Equipment

Table 3: Material Types for Digitization

Materials in Scope for Digitization	Description
Photographic Albums	Most album pages bound in book format that is approximately 11" x 14 ½". Spreadsheets with detailed cataloguing at the album page level exist, which organize the images by set, volume and page, including any written metadata that appears on the front or reverse of the images and pages.
Curatorial Collection Catalog Cards	Approximately 4" x 6" in size, with text on the front and an image on the back.
Historic and Modern Documentation	Paper materials of various sizes and condition with the majority being letter size, organized into folders by object accession number.

The institution is currently utilizing ResourceSpace as a digital asset management system and TMS as a collection information system. ResourceSpace and TMS object records share a basic integration, allowing TMS object information to automatically populate image files related to objects.

There is a Stokes Imaging book cradle and camera system being utilized for manuscripts digitization. While the Stokes system would be able to physically handle the photographic albums, the pre- and post-processing workflows are managed by proprietary software specifically geared for the manuscripts it is used to digitize. This renders it not convertible for other materials besides those in the manuscripts collection.

A fleet of five good quality Epson flatbed scanners are in use for present digitization of historic and modern documents, prints, negatives, etc. Adobe Photoshop software is used for post-processing.

Metadata schemas currently in use are IPTC, IPTC Extension, Dublin Core, and CIDOC-CRM. Administrative and descriptive metadata related to image files or visual resources presently map to IPTC schemas, data sets related to museum objects presently map to CIDOC-CRM.

Hardware and Software for Digitization

It was straightforward to ascertain that new hardware and software would need to be implemented to efficiently digitize the materials in scope for this project. The DT RGC180 Capture Cradle designed and built by Digital Transitions Division of Cultural Heritage was an exciting discovery. It offers the benefits of a true capture system but with a semi-modular design that allows any digital camera system to be used, updated, and replaced as needed.

The Digital Transitions solution also helped realize a new objective: speed. While working efficiently without sacrificing quality was an obvious requirement for such a high volume project, the project team had not entertained the possibility of true rapid capture. Originally designed for the National Archives Records Administration, the DT RGC180 system replaces much slower scanning systems used for scanning film, books, maps, and loose-document collections. It achieves preservation grade reproductions at a very fast rate of capture while providing reliability, ease of use, and safety of the original materials. These qualities make it optimum for the rapid capture of rare books, manuscripts, loose-document collections, magazines, folios, maps, and newspapers. In combination with speed, the DT RGC180 produces a true Digital Preservation Object that exceeds the FADGI 4 star rating for the highest image quality.

Post-processing would be completed using Capture One Cultural Heritage 8, a software package based on the popular commercial software, Capture One Pro. It is designed to support the same cultural heritage workflows as the DT RGC180 Capture Cradle from capture through post-processing. Especially notable are software tools that reliably de-skew and automatically crop images. These features would simplify, if not eliminate some of the most time-consuming aspects from post-processing, including removing the dependency on technician involvement in post-production. Implementing Capture One CH 8 would also ensure the receipt of regular updates for modern operating systems, since Capture One is one of the world's most popular software platforms for professional RAW file conversion.

Digitization Workflow: Physical Organization and Capture Standards of Materials

Digitization would be phased, with the three types of material (photographic albums, curatorial catalog cards, and historic and modern documentation within curatorial files) segregated for capture. All materials will be captured in full frame, leaving the borders, edges, etc. of each material intact for archival purposes. The DT RGC180 Capture Cradle would be utilized for all three material types.

The photo albums will be captured as TIFF image files, with one capture per page. Page captures should be named based on a "set_volume_page#.tiff" system. Filenames and some of the existing descriptive and administrative metadata catalogued at the page level will be compiled into a shot list. Shot lists can then be imported as metadata into image files using the ResourceSpace CSV Upload Plugin.

The catalog cards will have two digital captures associated with each card to account for the front and back of each card. These will be captured in TIFF format and, if OCR proves to yield legible electronic text, an OCR-enabled PDF derivative will be created. Catalog cards will be named utilizing the accession number, with front and back designations implied with added characters in the form "accession#_Fnt.pdf" and "accession#_Bk.pdf". A skeletal shot list will be created for the catalog cards including the filename and the accession number of the related object. Once imported as metadata into ResourceSpace, the files can be systematically linked to TMS object records via the accession number.

The contents of the curatorial files will need some level of pre-capture processing. Documents and paper materials in each file will be organized and cataloged into a spreadsheet before capture. These data points will include the related museum object's accession number, a piece number, document author name (s), authoring date, publisher, publication date (or unpublished), document classification selected from a defined list, capture date and capture technician name. Indications are that the large majority of correspondence material is no larger than letter size and the overall usage of the digital files does not warrant sacrificing efficiency of capture to perform full frame digitization on smaller sized items. These will be captured in TIFF format with an OCR-enabled PDF derivative created.

The viability of utilizing OCR for capture of the contents of catalog cards and curatorial files will need to be tested. The ability to index and perform a full text search of the entire content of this material in ResourceSpace and other electronic repositories will greatly enhance the material's value. Testing may prove that only certain types of documents will show results that are usable, and the final decision will be based on quality of analysis and quantity of material that meets the test standard. If OCR fails to be a viable process, an efficient keywording/tagging structure for the material will be developed as an alternative cataloguing mechanism, and alternative ways to index the text of the documents, such as outsourcing or crowd sourcing transcription, tagging, and data entry will be explored.

Data Modeling and Metadata

Creating data models of the metadata that can be extracted from or applied to the digitized reference materials provided an incredible understanding of the interrelationships within the reference materials, and the relationships between the art objects themselves and supporting documentation. With that understanding, the structure of an electronic repository of reference materials can be imagined.

The art object is the anchor of the data model, reflecting its central role in the generation and organization of data about it. The art object has been, across time, the impetus for the creation of every type of documentation that supports it. The data model supports the activation of people, places and concepts that enrich the art object but also allow it to be connected to other entities in the electronic world. This structure mirrors the way that all the analog reference materials in scope for this project are currently arranged and used, and it strengthens the role of these materials as "gateways" or linked identifiers that can resolve to other URLS. For example, the bibliographic citations would serve as a link to the same entity in OCLC, subject keywords would be activated by linking URIs to the Getty Art and Architecture Thesaurus (AAT) or Library of Congress Subject Headings. Instead of publishing text strings for much of the information in our repository, we would publish unique identifiers that point to other resources.

Data modeling helped to define a clear understanding of which data points needed to be extracted from documents or digital files to describe them, assign relevance, ensure cross-reference ability and make

them accessible via search, and which data points could be recorded as unique identifiers to other resources. Application programming around structured data is the solution to making this reference resource accessible in a centralized, electronic repository with search tools and user interfaces that aid research and discovery. The data model needed to be a map to plot the capture of data internally as well as a framework that informs application development requirements for the systems that will provide public access. The data model has to inform staff what needs to be catalogued and inform programmers what to build around the data.

The CIDOC Conceptual Reference Model (CRM) provides the "semantic glue" needed to serve both data capture and data publishing. It is appointed specifically for museums, libraries and archives and provides definitions and a formal structure for describing implicit and explicit concepts and relationships used in cultural heritage documentation. The CRM is intended to promote a shared understanding of cultural heritage information by providing a common and extensible semantic framework that any cultural heritage information can be mapped to, which also ensures that data modeled to the CRM will be interoperable.

The data models completed as part of this project were two-fold. The first model comprises the basic elements of an object's identity, or "tombstone" information. It is akin to information one would see on a wall label in a museum gallery. The second model represents what curators and humanities experts ultimately deemed as the richest content within the reference: documentation that reveals provenance episodes (dealer, previous owner, provenance classifications of documents), published (bibliographic citations), and unpublished documentation (informal research, correspondence, etc.) about the work of art. The conceptual data models created are a more versatile and timely grant product than the proposed RFPs for an online digital repository or content delivery tools. The evolving nature of technology platforms and tools would render a request for proposals almost immediately outdated, where as CIDOC-CRM data models will maintain their value and grow in effectiveness as the project moves forward.

See Appendix 4, 5, 5.1 and 5.2 for CIDOC-CRM Data Models

Table 4: Process for Generating Linked Data

Potential Process for Publishing Linked Data

Digitize documents and paper-based materials and house digital resources in a web-accessible location Catalog digital resources in TMS or another database of record according to CRM data models, with a special emphasis on resolving data with available online resources

Generate XML that conforms to the CIDOC-CRM

Create a conversion scheme (XSLT style sheet) to transform XML content to RDF or use a tool like the Mapping Memory Manager (FORTH Institute) or Karma (Information Science Institute at USC) to create RDF compatible URIs.

Publish RDF in an open, electronic repository utilizing a SPARQL endpoint and expand art.thewalters.org to include object-centric, RDF URIs. Build a repository or application organized around museum objects that uses RDF for searching, browsing and downloading reference resources about works of art and/or implement an application like ResearchSpace (ResearchSpace.org).

The project accomplished extensive exploration of a diverse collection of reference resources in partnership with a multi-disciplinary advisory panel and in collaboration with museum staff. This exploration and assessment yielded intellectual control over the resource, understanding of its strengths, and a digital strategy that would be scalable, efficient, and support public access. Upon completion of the planning project, and after the presentation of the plan to internal stakeholders who had served as principal members of the curatorial advisory committee, it was decided not to pursue an implementation grant at this time.

Interviews with project stakeholders were conducted as part of project evaluation to better understand how the project was perceived and why its continuation (or non-continuation) was decided. Interestingly, each interviewee brought a different concern to the table. One stakeholder supported the continuation of the project while two others did not support it, but for different reasons. In general, conversations concentrated on the curatorial files, which were recognized as the centerpiece of the project. Their reasons for this decision were discussed during in-person interviews with Chuck Patch, and include a number of possible ways that the digitization plan could be re-imagined.

Interview 1: The reference resources are too diffuse.

From the perspective of one curatorial staff member, the digital strategy yielded from this project supports the creation of a kind of grand, unified repository that brought together a large amount of supporting "adjunct", "archival," material, potentially enhancing it by linking it together within the repository. The problem was that it seemed as if the intent was to capture everything indiscriminately. The staff member felt the project needed to be centered around objects, rather than [as it appeared to be to the staff member] on the documents in the files. Further, objects in the collection that are a research priority should be considered first. Thus, both the objects whose reference materials were to be digitized and the actual reference materials themselves should be selected *a priori*, using a method that took both the importance of the object and the degree to which documentation existed, into account. The importance of any given form of documentation in the files could vary depending on the object. Another major problem with the files is that duplication exists. There are printouts of TMS records, photocopies of catalog cards, copies of journal articles, etc. As the project scaled up, the staff member feared that the "noise" (not his term) in the data would make it even more difficult to extract useful information than it is now.

While general intellectual control over the material would be gained by successful completion of the project, for certain types of art objects, certain types of documentation are more useful for research than others, and that is subjective. Despite concerns about "noise," the staff member felt that that it would be a great convenience if the entire contents of the curatorial files were digitized and organized to mirror the present arrangement, but felt cost and effort would outweigh that convenience. These answers imply that simply having the existing documentation, however duplicative, incomplete, or irrelevant in digital and downloadable format would nonetheless constitute an improvement over the current situation. On a final note, a very important addition to the project would be digital access to the conservation files, particularly if they were linked to the curatorial files.¹

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¹ Interview with Dr. Robert Mintz, Chief Curator, May 16, 2015

Interview 2: A resource-oriented perspective.

The second stakeholder brought a resource-oriented perspective to the decision not to support the project, expressing that the institutional archive should be a higher priority. She pointed out that, unlike the curatorial files, which have an organizational arrangement (however outdated and rudimentary) the materials in the institutional archive, are for the most part, without intellectual control. The Walters archive is in a nascent state, its materials having been gathered from around the museum and identified as "materials with potential archival value." Among these materials are the photographic albums that were identified by the project. There are almost certainly other resources of value to art historical research in the archival materials, but until they are organized into meaningful record-groups with finding aids, no one will be able to explore this body of material. It is quite possible the archives may possess equal historiographic value as the curatorial files, and are probably less duplicative. Ultimately, given finite resources, gaining control over the institutional archive is a preliminary requirement to establishing the kind of repository envisioned in *Access to Artwork's* digital strategy.²

Interview 3: The current situation is untenable.

The third stakeholder curator felt the digital strategy developed for this reference resource merited a green light. The staff member expressed that the current situation of accessing information about art objects is untenable. At some point, the curatorial files will have to be organized and processed in a more consistent, and accessible way. One of the immediate and most helpful outcomes of the current project, in her opinion, was the reorganization of the files by current department and accession number. Taking this to the next level by digitizing and indexing the materials would greatly enhance the utility of the information. Even if this process did not involve any enhancement of the current access points, she felt that having the data in digital form would make them easier to use. She emphasized the unreliability of the information in the files, but its continued importance as indication of information either inside the museum, or elsewhere. This reiterates the "gateway" function described earlier. She felt that her earliest museum work experiences as a cataloger has led her to regard many of these issues as fundamental cataloging problems, and these problems, though large, can be solved with comparatively simple approaches. ³

Future Directions and Restructuring the Project

It is clear that there is continuing value in the resources that were the subject of this investigation. The deterrent factors revealed by post-project evaluation (i.e. the interviews) revolve around unclear components of intellectual control or competing internal priorities and none express diminutive value of the materials. The following actions or refinements to the digital strategy would add to the success of a future implementation of this project.

Define end-user requirements or "wished for" functionality.

Clearly articulate the needs of end-users (scholars, researchers, museum staff, and the public at large), demonstrating how the digital strategy would solve current problems and supply wished-for functionality. While the project planning documents have always described the resources under

² Interview with Diane Bockrath, Archivist/Librarian, May 16, 2015

³ Interview with Dr. Jo Briggs, Assistant Curator – 18th & 19th Century Art, May 13, 2015

consideration as "reference" sources, the extent of their use in this way was underestimated. The fact that the advisory panel agreed that a large proportion of the material in the curatorial files was not useable on its own – that it is valuable function was primarily to point researchers to other sources inside and outside of the museum, may be the source of the perception that the goals should be better defined around that principle. Rather than the documents in the files, it is their consolidation of reference points that gives them value, which is an eminently doable database function. The goals should be presented in ways that propose to create a system that does what the files do, without necessarily using the files themselves. In doing this, the incorporation of information sources could pull in some low-hanging fruit, such as links to conservation data, and citations to online sources such as JSTOR.

Find new ways to communicate and enrich technical knowledge.

Although great effort was made to communicate effectively with affected stakeholders, post-project evaluation revealed inconsistencies in understanding parts of the digital strategy. For example, the digital strategy includes the choice to digitize in bulk, rather than arduously vet material, by hand, in advance of digitization. This choice was made so that the filtering could be done opportunistically against easier-to-manipulate digital files, saving time and labor. Still, the time, labor and cost of this vetting process was cited as a deterrent factor during evaluation. Additionally, the concept that the digitized files would serve as way stations en route to direct access to original materials may have countered the concerns about competing priorities for access to archival materials.

Develop document management guidelines.

Develop document management guidelines for the variety of types of curatorial documentation that the curatorial files house. Recognize that these guidelines are likely to vary from one department to another. Implement a central store for these documents that adheres to the organizational structure of the existing curatorial files. Initially, this may be a system as basic as SharePoint. Closing the existing curatorial files, except for materials that pre-date the existence of electronic documents would be an integral part of document management guidelines. The goal would be to cease the addition of any born digital document or reference from being printed out and added to the existing files.

Integrate art object related holdings across curatorial, registrarial, conservation and archives.

Continue to pursue the development of a linked data system for the integration of curatorial, registrarial, conservation, and archival holdings. The design should provide a framework within which CRM entities can be identified and retrieved from the various platforms in use at the museum. Note that the CIDOC-CRM is well suited to incorporating previous classification methods, allowing information to be retrieved and grouped using the old curatorial classification system.

Digitize opportunistically, or when it strengthens a collection-related project.

Develop a plan to implement these activities as steps that are part of discrete projects grounded in the art objects and requiring curatorial research, such as exhibitions, catalogs, or conservation projects.

While this will result in the creation of smaller *lots* of digital products, these products will greatly enhance the utility of the reference resources and provide a continually growing proof of concept of the utility of a digital repository for this reference material. It unburdens the digital strategy with the sudden presence of a large end-point that requires stewardship and maintenance. Instead, user comfort, utility, and new ways to share and provide access can be developed over longer stretches of time. The flaw in this approach is that the opportunistic or piece-meal nature of the digitization could possibly preclude grant funding opportunities for obtaining the rapid capture camera and cradle system that allows efficient digitization of the materials.

Collaboration and Outreach

To understand and synthesize the full lifecycle of the reference materials within this project, exploration of existing repositories and initiatives similar in scale and mission was undertaken. The Autry National Center's Collections Online (http://collections.theautry.org/) succeeds in presenting documentary materials alongside art and artifacts. Art and artifacts combined with manuscripts, lettersheets, serials and other documentary materials reveal a rich narrative about a period of time or larger historical event. An excellent navigational feature of the Collections Online site that harkens to linked data is the hyperlinked fields Maker Name and Subject, allowing the user to browse and filter by clicking on these terms. While there is a parallel between grouping reference resources around a period of time and our requirement to orient documentation around art object, the electronic repository envisioned by this digital strategy would have a more granular stratum of reference material presented at the art object level, requiring a more hierarchical design than the Autry's.

The Archives Directory for the History of Collecting in America (http://research.frick.org/directoryweb/) is an online resource created and maintained by the Frick Center for the History of Collecting. The Directory helps researchers locate primary source material about American art collectors, dealers, agents and advisors by providing the location of repositories (museums, archives, electronic repositories) that hold these records. The Directory contains locations for material related to roughly 2,100 constituents and is growing actively. Provenance research of works of art in the Frick's own collection is generally the seed that begins each new entry into the Directory database, and where once only constituent entries with links to archives were published, the Directory now includes constituents with good biographical details only and a missing archival repository. This is evidence of the great need for information about the people who have affected the art world over the last two centuries, or to link archives together through the people whose records they hold⁴. A great parallel can be made between the Archives Directory and the data points related to provenance, previous owner, and dealer classifications of content present in the curatorial files. The information expressed in the provenance node of the data model for this project could ultimately be contributed to the Archives Directory. The Archives Directory also classifies constituents by role, the definitions of which could be borrowed and applied to our own content.

ResearchSpace (http://www.researchspace.org), a Mellon Foundation funded-project, is developing a collaborative environment for humanities and cultural heritage research. Engaging ResearchSpace to more completely explore the potential for *Access to Artwork's* body of reference materials is an excellent future direction. ResearchSpace focuses on "knowledge representation" activated by semantic web technologies, which is, in technology speak, a primary need that emerged from this project.

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⁴ Interview with Samantha Deutch, Assistant Director of the Center for the History of Collecting, May 6, 2015

Collaborating with ResearchSpace would allow for further exploration of utilizing the CIDOC-CRM, integrating varied data without losing authenticity, meaning, or historical perspective (especially relevant to annotations and commentary). Implementations of the ResearchSpace application serve as centralized, interoperable, electronic repositories with tools such as the Contextual Search System that facilitate the research of works of art, their artists and historical people for scholars, researchers and students.

MCN 2015, the annual conference of the Museum Computer Network (MCN), a member driven professional organization, will provide an excellent opportunity to connect with the museum technology community about the *Access to Artwork* project. Peer-to-peer discussion of the experiences and strengths recounted in this white paper are invaluable to fostering collaboration and the future direction of this project. A session entitled, "Give Those Paper Files Legs! Planning and Prioritizing Curatorial Research for Digitization, Discovery and Interaction" will be presented by Kate Blanch on November 7, 2015 in Minneapolis (http://sched.co/3rhc).

Access to Artworks allowed for the re-imagining of both the gems and junk that have accumulated in filing cabinets for nearly 100 years, within the rich context of the digital humanities. Tough questions were asked about the changing validity of research materials over time, and how to activate this kind of supporting documentation so it can be meaningful and relevant (or at least referenced) in our modern, digital world. The project successfully provided direction and strategy for a resource with great potential.

Appendix 1: Sample Catalogued Photo Album Data

		_		Additional			Marshall		Image Category: i =	Additional		
		_	Negative	_		Additional Accession	Inventory		Installation; g =	Image		
Album Set	Book	Number	Number	Numbers	Accession Number	Numbers	Number	Numbers	group; s = single	Categories	Page Notes	Photo Notes
						F0 473 F0 474 F0 463						58.172 Missing (cf. 4578x,
	_	50	4447		E0 470	58.172, 58.174, 58.163,	4277					58.172 - vol 21), 5 in Case
2	/	50	1117		58.170	58.175, 58.188	1277		g		_	58, First floor Vault
						58.205 AB, 58.142,						Case 55 & 58, First floor
						58.109 AB, 58.183 AB,						Vault (front); c. 130 - 135
2	7	51	1118		58.145	58.82	1278		g			(Back)
						58.29, 58.196, 58.9,						vault (Front); c. 136 - 141
2	7	52	1119		58.30	58.26, 58.110	1279		g			(Back)
						58.25, 58.22, 58.14,						(Front); c. 141 - 146
2	7	53	1120x		58.31	58.27, 58.28	1280		g			(Back)
						,						Case 55, First floor Vault;
												58.47 Case 68, North
2	7	54	1121x		58.34	58.62, 58.147, 58.47	1281		g			Gallery (Front); c. 148 -
												Missing (2x), Case 55, 1st
						57.776, 58.50, 58.48,						floor Vault ; (Front); c.
2	7	55	1122x	1123x	58.49	58.53, 58.52	1282	1283	g			152 - 155; c. 156 - 159
						58.43, 58.19, 58.58,						Case 58, first floor Vault
2	7	56	1124x		58.81	58.36, 58.42	1284		g			(Front); c. 161 -165 (Back)
												58.120 Duplicate of one
						FO 10F FO 1F						in pendant Case 61 East
	_		4405		50.400	58.195, 58.15,	4205					Gallery; Case 58, First
2	/	5/	1125x		58.120	58.141,58.121	1285		g			floor Vault, Case 14,
			1481x					1287, 1288,				Case 58, First floor Vault; Case 55 First floor Vault;
,	7	Ε0	(4)		58.21	E0 17 E0 70 E0 21E	1206	1289				Case 49, Oriental room
2	'	36	(4)		36.21	58.17, 58.79, 58.215	1200	1209	S			Case 49 Oriental Room
2	7	59	1482		54.737	58.235, 54.738	1290		g			(front); c. 175 (Back)
	 	33	1-02		5 5	33.233, 3 1.730	1230		D	1	1	To Parke-Bernet Galleries
												4/11/42, Disposed of;
2		60	1483				1291		S			Henry 2nd Room (Front);
												Case 58 First floor Vault;
						58.20, 58.8, 58.10, 58.24,						Case 55 First floor Vault
2	7	61	2169	2168	58.23	58.13; 58.1;58.18	1292	1293	g		<u> </u>	(Front); c. 179 -184; c.
						67.636, 67.544 AB,						Drawer Case 57 South
						61.216, 53.141, 53.116						Gallery; Case 56 South
						AB, 57.1321, 67.361 AB,						Gallery; Drawer Case 54
2	7	62	5079		67.637	67.360, 72.12, 72.11	1294		g			South Gallery (Front);
	<u> </u>	. 02	3073	ļ	07.007	07.500, 72.12, 72.11	1257	ļ	Íο	<u> </u>		country (Froncy)

Figure 1: Photo Album Opening



Figure 2: Photo Album Opening, Inset with Page Detail



Figure 1: Collection Catalog Card, Front

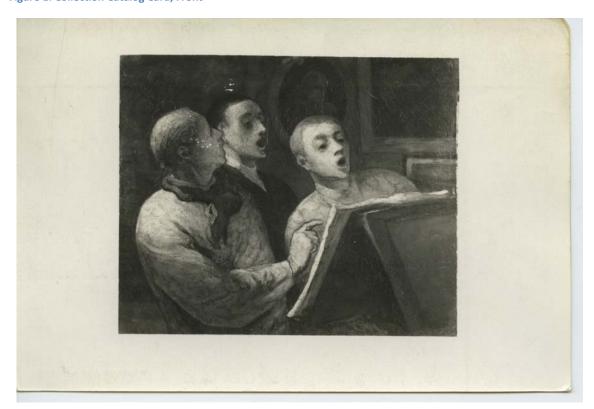
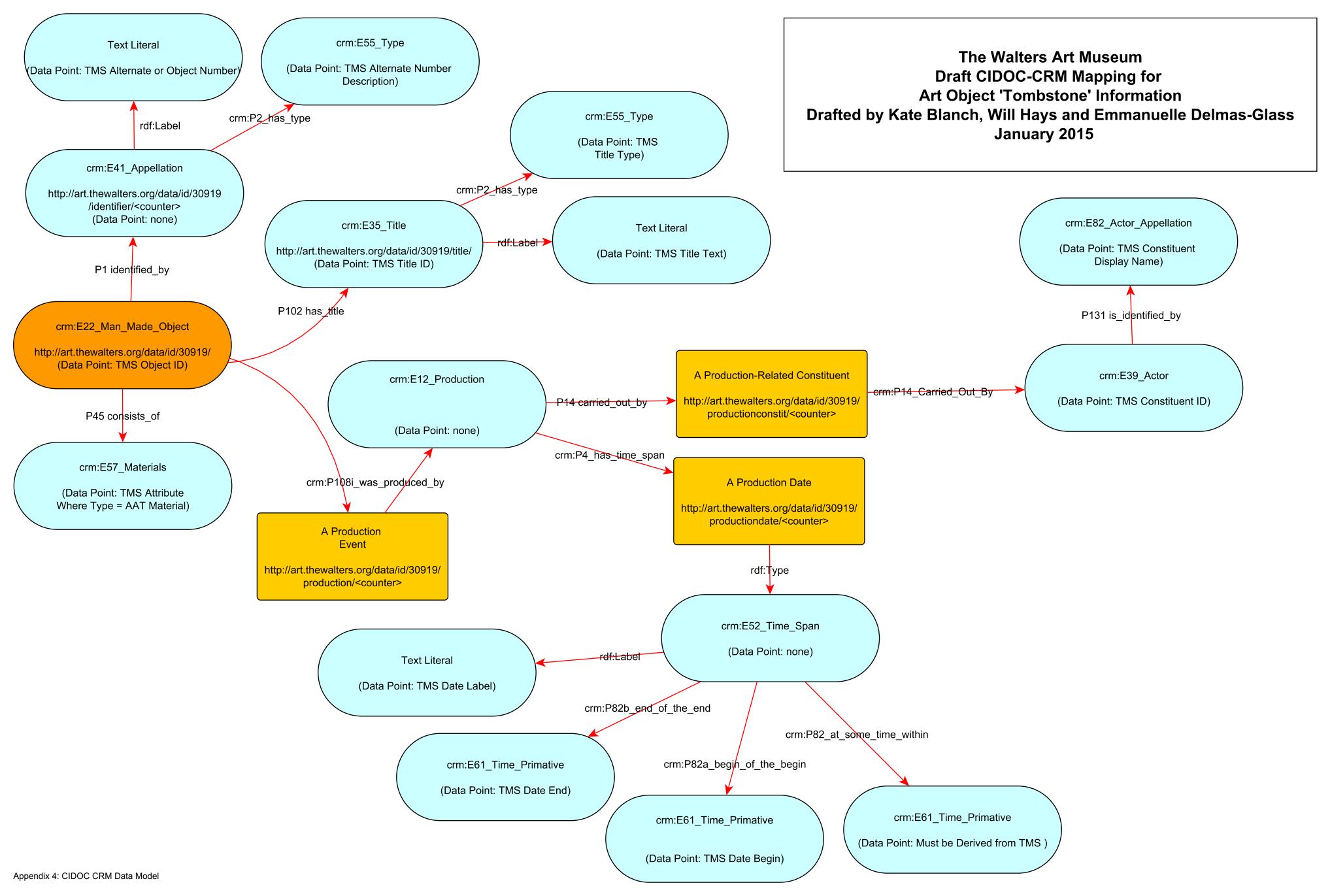
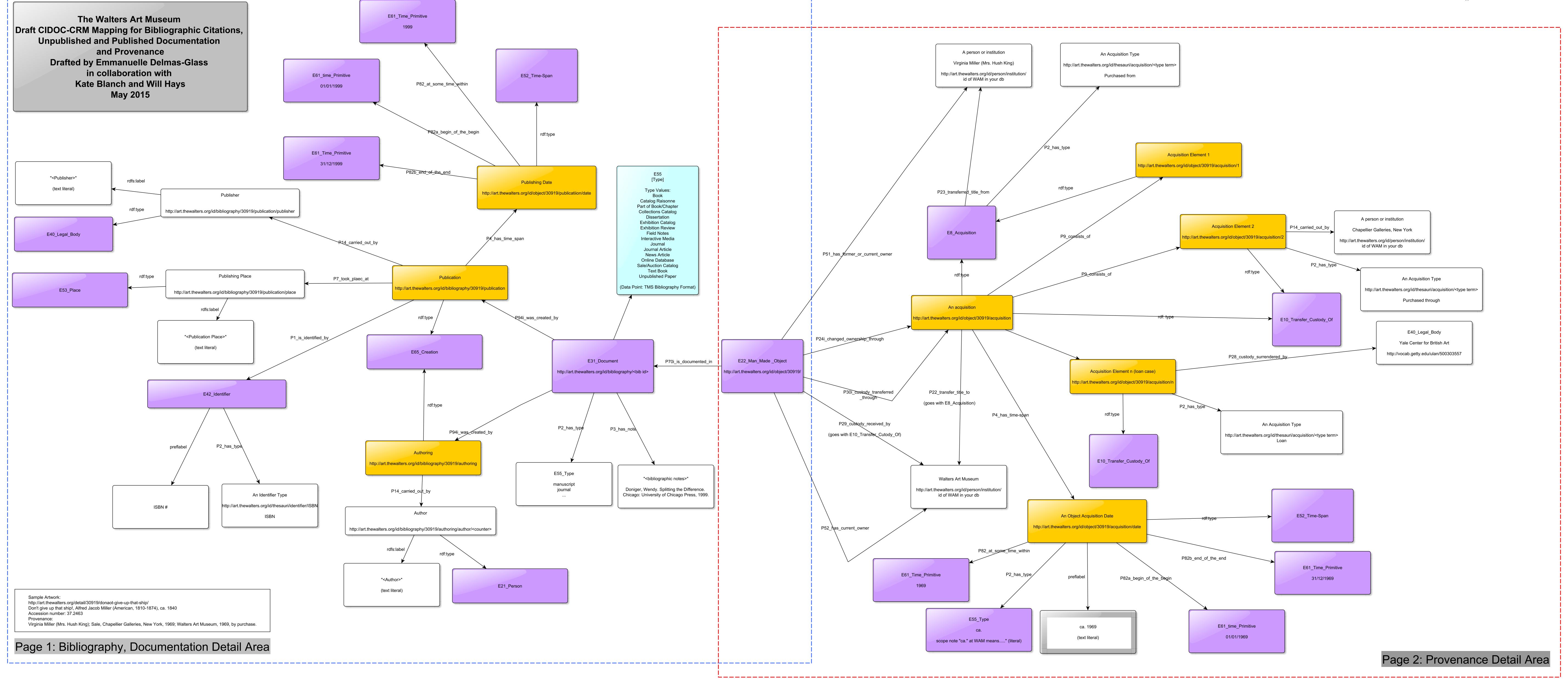
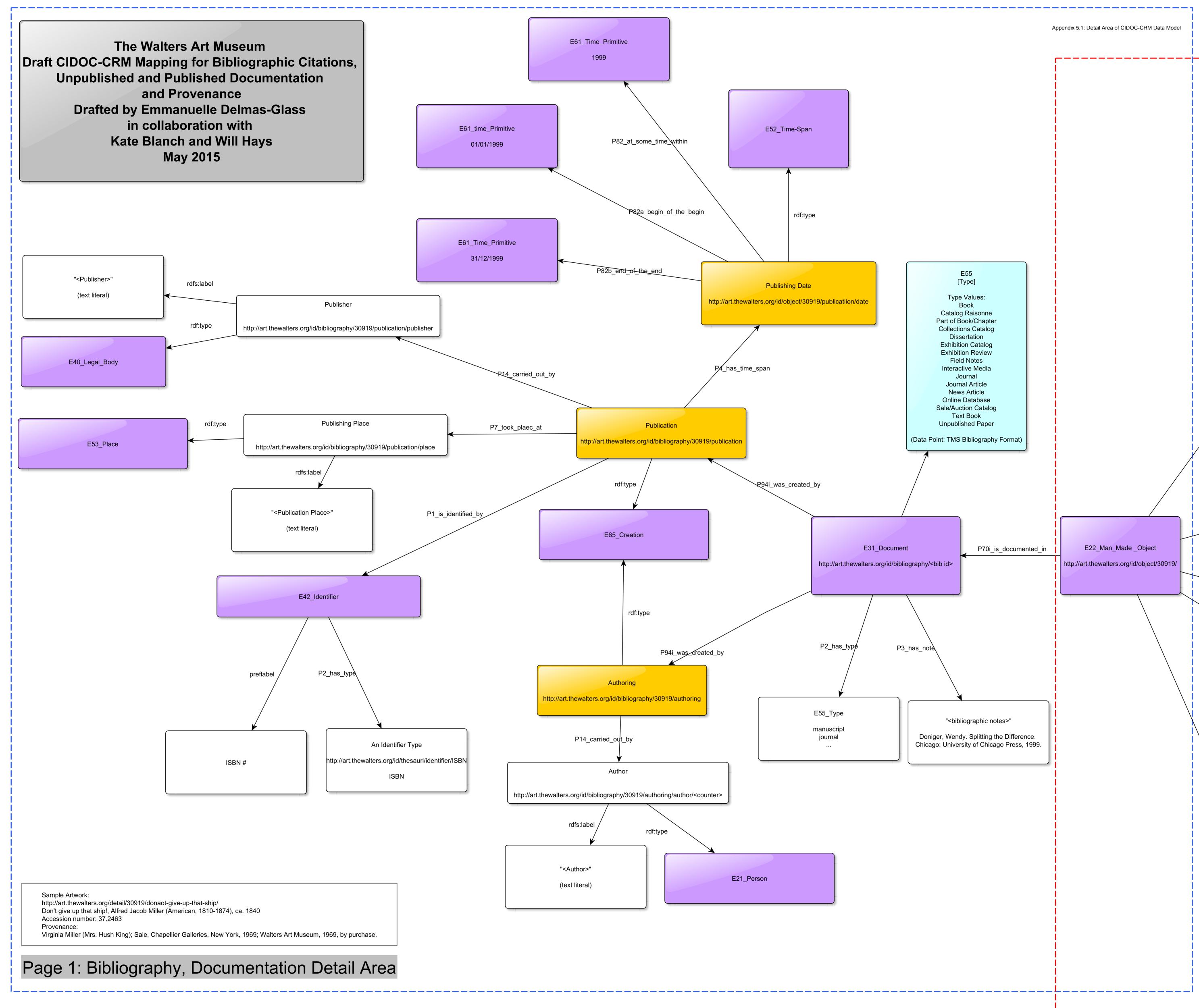


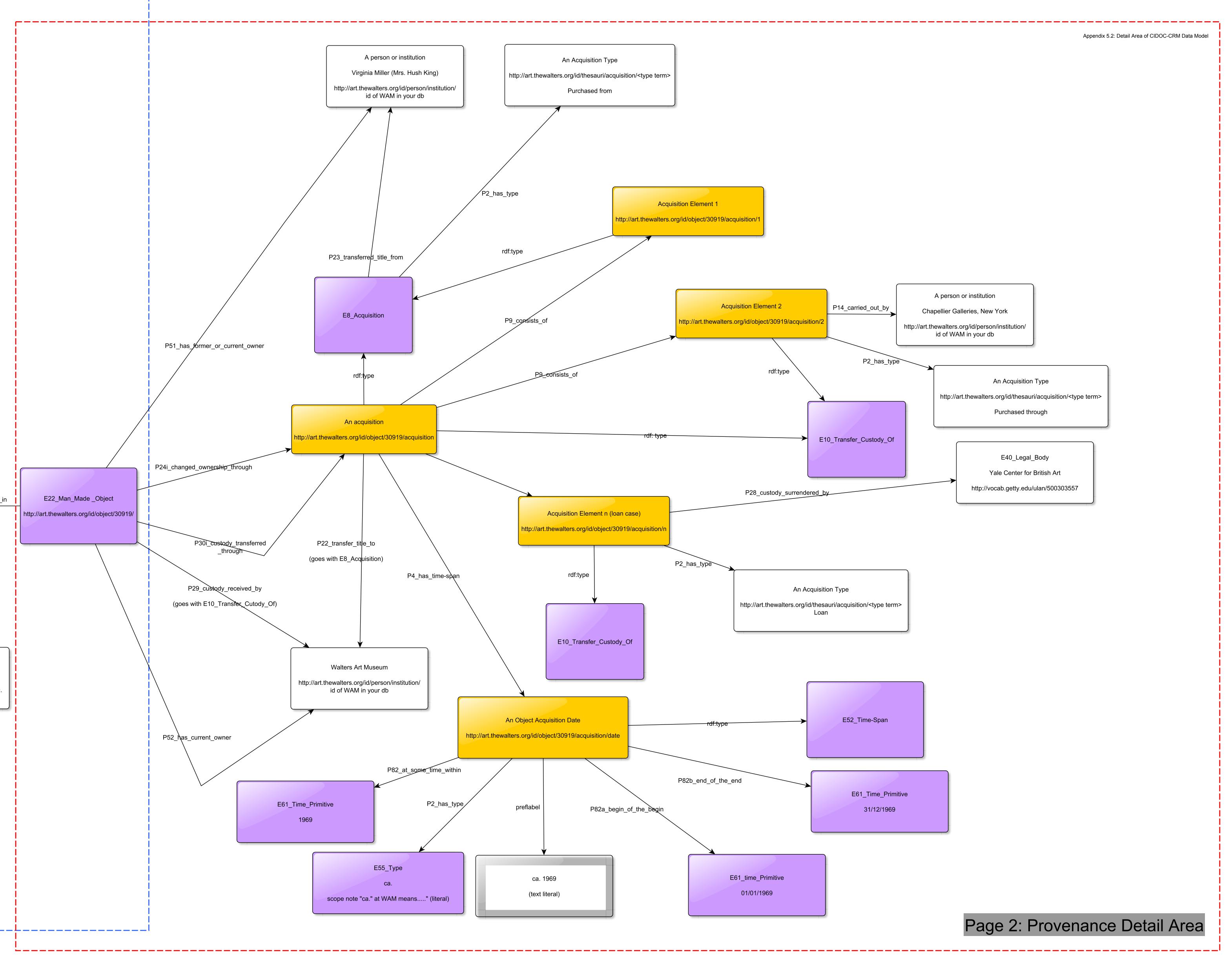
Figure 2: Collection Catalog Card, Back

NUM. INDEX	211 Yell 5- 79A
37. 7	PAINTING 4612
	French, 19th cen.
TECHNICAL RECORD	DAUMIER, Honoré Marseilles 1808-Valmendois 1879 The Prison Choir. (Les chanteurs au lutrin).
	Oil on canvas. Cell: Latouche (1878); Mamde Bureau; Mrs.S.D. Warren, N.Y. 1903, n.110; H. Williams; Ref: "Exposition des Peintures et Dessins de H.Dau-
1198 5781	mier"Gal.Durand-Ruel, Paris 1878, n.18; Exposition de Peintures etc., de la caricature etc Ecole des Beaux Arts, Paris, 1888, n.365; Arsene Alexandre Honoré Daumier L'homme et l'oeuvre, Paris, 1888, p.373; see artsit card for further references M.R. Johnston, The 19th c.Ptgs in the WAG, 1982, p.58
	19 ³ / ₄ " x 24" (.502 x .612)
	Warren sale, Am. Art Assn., New York, 1903, no. 110 illus.

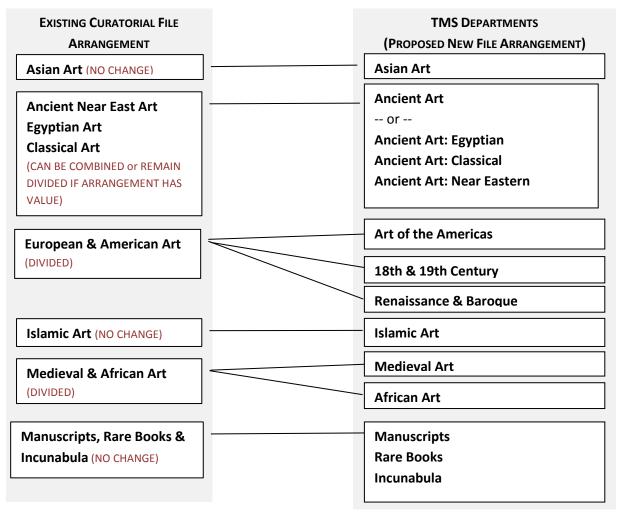








NEH Access to Artworks in Encyclopedic Context Comparison of Curatorial File Arrangement Vs. TMS Departments



Proposed Work Plan

The proposed work plan is to arrange the curatorial files to mirror the TMS departmental structure while preserving any sub-arrangements within those categories.

Arranging the curatorial files to more closely reflect the TMS departmental structure would:

- -Allow the NEH archives team to generate TMS checklists against which a complete inventory and accurate assessment of the amount of materials that are present, missing, or need to and eventually will be created.
- -Allow the NEH archives team to establish an intellectual understanding of the entire resource, which greatly facilitates the development of a successful digitization strategy.
- -Provide the opportunity for way-finding issues to be improved upon as filing cabinets would be re-labeled and maintained where possible.
- -Alleviate confusion about where files can be accessed and housed, as the TMS departmental structure would serve as a fixed reference. This will also improve the condition and structure of the resource as it expands.
- -Allow for organized, systematic completion of future digitization efforts. Using the TMS checklists, locations and the actual TMS object records themselves will allow us to electronically track each curatorial file or groups of files during digitization activities.

- I. 18th and 19th Century Art
 - A. Manuscripts (11's, 15's)
 - B. Post-Classical European Sculpture (27's)
 - C. American Sculpture (28's)
 - D. Post-Classical European and American Painting and Drawing (37's)
 - E. Miniatures (38's)
 - F. Precious Stones and Gems (42's)
 - G. Mosaics and Cosmati (43's)
 - H. Enamels (44's)
 - I. Stained and Painted Glass (46's)
 - J. Cut and Other Glass Wares (47's)
 - K. Ceramics (48's)
 - L. Arms and Armor (51's)
 - M. Iron and Steel (52's)
 - N. Brass and Copper (53's)
 - O. Bronze and Ormolu (54's)
 - P. Pewter and Lead (55's)
 - Q. Other Metals and Alloys (56's)
 - R. Gold and Silver (57's)
 - S. Timepieces (58's)
 - T. Coins and Medals (59's)
 - U. Wood Carving (61's)
 - V. Decorative Wood (64's)
 - W. Domestic Furniture (65's)
 - X. Lacquer, Inlay, Boulle, Marquetry, Etc. (67's)
 - Y. Ivory and Bone (71's)
 - Z. Mother-of-Pearl, Horn, Coral, Tortoise Shell, Etc. (72's)
 - AA. Leather (73's)
 - BB. Amber (74's)
 - CC. Wax (75's)
 - DD. Composite (76's)
 - EE. Rugs and Carpets (81's)
 - FF. Tapestry (82's)
 - GG. Textiles (83's)
 - HH. Lace (84's)
 - II. Costumes and Accessories (86's)
 - JJ. Prints (93's)

II. African Art

- A. Paintings and Drawings (36's)
- B. Post-Classical European and American Painting and Drawing (37's)
- C. Arms and Armor (51's)
- D. Iron and Steel (52's)
- E. Bronze and Ormolu (54's)
- F. Gold and Silver (57's)
- G. Coins and Medals (59's)
- H. Wood Carving (61's)
- I. Ivory and Bone (71's)

III. Ancient Art

A. Egyptian

- 1. Egyptian Sculpture (22's)
- 2. Painting and Drawing (32's)
- 3. Stone (41's)
- 4. Precious Stones and Gems (42's)
- 5. Cut and Other Glass Wares (47's)
- 6. Ceramics (48's)
- 7. Bronze and Ormolu (54's)
- 8. Gold and Silver (57's)
- 9. Wood Carving (61's)
- 10. Ivory and Bone (71's)
- 11. Mother-of-Pearl, Horn, Coral, Tortoise Shell, Etc. (72's)
- 12. Leather (73's)
- 13. Composite (76's)
- 14. Stucco (78's)
- 15. Mummies (79's)
- 16. Textiles (83's)

B. Ancient Near East

- 1. Ancient Near East Sculpture (21's)
- 2. Stone (41's)
- 3. Precious Stones and Gems (42's)
- 4. Cut and Other Glass Wares (47's)
- 5. Ceramics (48's)
- 6. Iron and Steel (52's)
- 7. Brass and Copper (53's)
- 8. Bronze and Ormolu (54's)
- 9. Gold and Silver (57's)
- 10. Coins and Medals (59's)
- 11. Ivory and Bone (71's)

C. Classical

- 1. Classical Sculpture (23's)
- 2. Stone (41's)
- 3. Precious Stones and Gems (42's)
- 4. Mosaics and Cosmati (43's)
- 5. Cut and Other Glass Wares (47's)
- 6. Ceramics (48's)
- 7. Bronze and Ormolu (54's)
- 8. Pewter and Lead (55's)
- 9. Gold and Silver (57's)
- 10. Coins and Medals (59's)
- 11. Wood Carving (61's)
- 12. Ivory and Bone (71's)
- 13. Amber (74's)
- 14. Composite (76's)

IV. Art of the Americas

- A. Native North and South American Painting and Drawing (29's)
- B. Stone (41's)
- C. Precious Stones and Gems (42's)
- D. Ceramics (48's)
- E. Bronze and Ormolu (54's)
- F. Gold and Silver (57's)
- G. Wood Carving (61's)
- H. Ivory and Bone (71's)
- I. Mother-of-Pearl, Horn, Coral, Tortoise Shell, Etc. (72's)
- J. Textiles (83's)
- K. Costumes and Accessories (86's)

V. Asian Art

- A. Asian Sculpture (25's)
- B. Asian Painting and Drawing (35's)
- C. Stone (41's)
- D. Precious Stones and Gems (42's)
- E. Enamels (44's)
- F. Cut and Other Glass Wares (47's)
- G. Asian Ceramics (49's)
- H. Arms and Armor (51's)
- I. Iron and Steel (52's)
- J. Brass and Copper (53's)
- K. Bronze and Ormolu (54's)
- L. Pewter and Lead (55's)
- M. Gold and Silver (57's)
- N. Timepieces (58's)
- O. Wood Carving (61's)
- P. Wood Domestic Furniture (65's)
- Q. Lacquer, Inlay, Boulle, Marquetry, Etc. (67's)
- R. Ivory and Bone (71's)
- S. Mother-of-Pearl, Horn, Coral, Tortoise Shell, Etc. (72's)
- T. Leather (73's)
- U. Amber (74's)
- V. Paper (77's)
- W. Tapestry (82's)
- X. Textiles (83's)
- Y. Costumes and Accessories (86's)
- Z. Japanese Woodblock Prints (95's)
- AA. Asian Prints (96's)
- BB. Asian Printed Books (97's)

VI. Islamic Art

- A. Islamic Sculpture (24's)
- B. Asian Painting and Drawing (35's)
- C. African Painting and Drawing (36's)
- D. Miniatures (38's)
- E. Stone (41's)
- F. Precious Stones and Gems (42's)
- G. Enamels (44's)
- H. Cut and Other Glass Wares (47's)

- I. Ceramics (48's)
- J. Arms and Armor (51's)
- K. Iron and Steel (52's)
- L. Brass and Copper (53's)
- M. Bronze and Ormolu (54's)
- N. Gold and Silver (57's)
- O. Wood Carving (61's)
- P. Lacquer, Inlay, Boulle, Marquetry, Etc. (67's)
- Q. Ivory and Bone (71's)
- R. Leather (73's)
- S. Stucco (78's)
- T. Rugs and Carpets (81's)
- U. Textiles (83's)
- V. Undesignated Textiles (85's)

VII. Medieval Art

- A. African and Oceania Sculpture (26's)
- B. Post-Classical European Sculpture (27's)
- C. African Painting and Drawing (36's)
- D. Post-Classical European and American Painting and Drawing (37's)
- E. Stone (41's)
- F. Precious Stones and Gems (42's)
- G. Enamels (44's)
- H. Niello (45's)
- I. Stained and Painted Glass (46's)
- J. Cut and Other Glass Wares (47's)
- K. Ceramics (48's)
- L. Arms and Armor (51's)
- M. Iron and Steel (52's)
- N. Brass and Copper (53's)
- O. Bronze and Ormolu (54's)
- P. Pewter and Lead (55's)
- Q. Gold and Silver (57's)
- R. Coins and Medals (59's)
- S. Wood Carving (61's)
- T. Wood Church Furniture (63's)
- U. Decorative Wood (64's)
- V. Ivory and Bone (71's)
- W. Leather (73's)
- X. Wax (75's)
- Y. Textiles (83's)

VIII. Modern and Contemporary Art

- A. Post-Classical European Sculpture (27's)
- B. American Sculpture (28's)
- C. Post-Classical European Painting and Drawing (37's)
- D. Cut and Other Glass Wares (47's)
- E. Bronze and Ormolu (54's)
- F. Gold and Silver (57's)
- G. Timepieces (58's)
- H. Coins and Medals (59's)
- I. Prints (93's)

IX. Renaissance and Baroque Art

- A. Post-Classical European Sculpture (27's)
- B. Post-Classical European and American Painting and Drawing (37's)
- C. Miniatures (38's)
- D. Stone (41's)
- E. Precious Stones and Metals (42's)
- F. Enamels (44's)
- G. Niello (45's)
- H. Stained and Painted Glass (46's)
- I. Cut and Other Glass Wares (47's)
- J. Ceramics (48's)
- K. Arms and Armor (51's)
- L. Iron and Steel (52's)
- M. Brass and Copper (53's)
- N. Bronze and Ormolu (54's)
- O. Pewter and Lead (55's)
- P. Gold and Silver (57's)
- Q. Timepieces (58's)
- R. Coins and Medals (59's)
- S. Wood Carving (61's)
- T. Painted Wood (62's)
- U. Wood Church Furniture (63's)
- V. Decorative Wood (64's)
- W. Wood Domestic Furniture (65's)
- X. Ivory and Bone (71's)
- Y. Mother-of-Pearl, Horn, Coral, Tortoise Shell, Etc. (72's)
- Z. Leather (73's)
- AA. Wax (75's)
- BB. Paper (77's)
- CC. Tapestry (82's)
- DD. Textiles (83's)
- EE. Prints (93's)

X. Manuscripts

- A. Manuscripts (W's, 10's)
- B. Walters Albums (11's)
- C. Bindings (12's)
- D. Holographs (15's)
- E. Incunabulae (91's)
- F. Printed Books after 1500 (92's)

XI. General Reference Files

Sample Views of Custom Data Entry Form NEH Access to Artworks in Encyclopedic Context Curatorial File Survey Database

NEH Access to Artworks in Encyclopedic Context Curatorial File Survey Record ID: 2 ContainerType: folder Is A Group File: If Yes, Use Both the Accession Number and Additional Accession Number Fields to Specify All Objects In Group. Accession Number: Separate Accession Numbers with a Semi-Colon. Example: 27.15; 27.16 Additional Accession Numbers: Condition 2 - Good Keywords/ Sumerian, alabaster Areas of Interest: Duplicate Documents Present: Documents Begin Year: End Year: Date Range: 1931 1998 Total Number Count documents for potential digitization only. of Documents: Constituents Document Content Types Document Count: Correspondence: 10 Conservation: Document Count: Clipping (Newspaper, Document Count:

NEH Access to Artworks in Encyclopedic Context Curatorial File Survey Constituents Document Content Types Gerald S. Cooper Author • Jeanny Vorys Canby (Mrs. T.Y. Canby, Jr.) • Mentioned • Dorothy Kent Hill • Mentioned • Henry Walters Recipient Edgar J. Banks • Sender • Jeanny Vorys Canby (Mrs. T.Y. Canby, Jr.) Recipient • Jeanny Vorys Canby (Mrs. T.Y. Canby, Jr.) Sender • Horst Steible Sender -• Horst Steible Recipient Gustavus F. Swift • Sender

Appendix 9

NEH Access to Art in Encyclopedic Context Curatorial Files Phase 2 Proposed Preservation Survey Scale

Scale Rating 1:

Folder:

- Acid-Free Folder
- No rips, folds, tears, or fraying

Label:

■ Folder Label Intact

Contents:

■ No rips, folds, tears, or fraying

Scale Rating 2:

Folder:

- Acidic Folder
- No rips, folds, tears, or fraying

Label:

■ Folder Label Intact

Contents:

■ No rips, folds, tears, or fraying

Scale Rating 3:

Folder:

- Acidic Folder
- Minor rips, folds, tears, or fraying

Label:

■ No Folder Label or Present Label Damaged

Contents:

■ No rips, folds, tears, or fraying

Scale Rating 4:

Folder:

- Acidic Folder
- Moderate rips, folds, tears, or fraying

Label:

■ No Folder Label

Contents:

■ Minor to Moderate rips, folds, tears, or fraying

Scale Rating 5:

Folder:

- Acidic Folder
- Moderate to Severe rips, folds, tears, or fraying

Label:

No Folder Label

Contents:

■ Moderate to Severe rips, folds, tears, or fraying